1.    An    analogue-to-digital    converter    having differential    inputs    and    a    parallel    structure, comprising at least one network of N series resistors with value r and one network of N comparators, in which

- the    series    resistor    network    receives    a reference    voltage    (VH)    and    is    traversed    by    a fixed current $I_0$;

- the row i, i varying from 1 to N, comparator ($COMP_i$)    essentially    comprises    a    dual differential    amplifier    with    four    inputs,    two inputs    receiving    a    differential    voltage    VS-VN to be converted, a third input being connected to    a    row    i    resistor    of    the    network,    and    a fourth    input    being    connected    to    an    N-i    row resistor    of    the    network,    the    dual    differential amplifier    supplying    a    voltage    representing    a difference of the form (VS-VSN) – $(N-2i)r.I_0$, and    the    comparator    switching    in    one    direction or    the    other    depending    on    the    level    of    the voltage    VS-VSN    and    on    the    row    i    of    the comparator when said difference changes sign, characterized in that the resistor network is supplied by    a    variable    reference    voltage    (VH)    originating    from    a servoloop    circuit    (Cref,    DA)    which    locks    the    voltage level    of    the    middle    of    the    resistor    network    at    a voltage equal to the common mode voltage (VS-VSN)/2 of the differential voltage to be converted.

2.    The    converter    as    claimed    in    claim    1, characterized in that the servoloop circuit supplies a variable reference voltage to the resistor network and to    another    resistor    network    similar    to    the    first, locking being performed starting from a voltage taken from the middle of the other resistor network.


AMENDED SHEET

- 14 -

3.      The converter as claimed in claims 1 and 2, characterized in that the dual differential amplifier with four inputs is composed of two single differential amplifiers, the outputs of which are connected in parallel, each of them receiving, on the one hand, one of the two input differential voltages and, on the other hand, one of the two voltages originating from the resistor network.

AMENDED SHEET